TULARE COUNTY
FIRE DEPARTMENT

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FIRE CHIEF

FIRE SUPPRESSION WATER STORAGE TANKS

The following are the requirements for installation of water storage tanks in the foothills, State responsibility area, wildland urban interface areas and local response areas that do not have pressurized water hydrant systems within Tulare County. Please contact our Department if there are any questions PRIOR to installation. While all of these points may not apply to your situation, it is for your information and review. Violations of the following are enforced under the authority of the California Fire Code (CFC), Public Resource Code, National Fire Protection Association (NFPA) and in accordance with the Tulare County Ordinance Code.

1. All residential and commercial structures shall meet NFPA 1142 fire flow requirements or as specified by the Fire Department. Water Storage tanks shall meet NFPA 22 requirements.

2. **Tank Connection:**

   a) Connection to the tank shall be located not less than 8" from the bottom of the tank.

   b) An approved polyurethane or brass shut-off valve shall be located at the tank.

   c) There shall be an elbow attached to the interior of the tank descending to no less than 2" from the bottom of the tank.

3. **Pumper Connections:**

   a) The Fire Department connection (FDC) shall be equipped with a 4-1/2" (National Hose Thread) NFPA 24-5.9.2.2

   b) The FDC shall be placed at least 40' from the building and no more than 150' from furthest portion of the structure.

   c) The FDC shall not be less than 18" or more than 24" from final grade.

   d) The FDC and piping shall be supported in an approved manner. NFPA 24-9.1.2

   e) FDC shall be protected by barrier posts if deemed necessary. NFPA 24-7.3.5

4. **Materials NFPA 1142-8.3.2 & NFPA 24-10.1.5:**

   a) Piping shall be listed for fire protection service and comply with AWWA standards. Piping shall be designed to withstand a working pressure of at least 150 psi. (PVC minimum of Schedule 40 for underground sections only.)

b) All joints and fitting shall be approved and listed.

c) Caps shall be required and may be of brass or polyurethane. They must be properly secured and arranged for easy removal by Fire Department. NFPA 24-5.9.1.4

d) Underground piping, if applicable, shall be no less than 6". NFPA 24-5.2.1

e) All bends and changes in direction of the piping shall be supported with thrust blocks. (If using Schedule 40 PVC pipe for the underground, the thrust block must completely surround the galvanized elbow joint to prevent movement.)

5. **Access:**

a) The tank and connections shall be accessible to all fire apparatus at all times (all weather road). Location shall not interfere with nearby objects including buildings, fences, posts or other. There shall be at least a 3' clearance in all directions and the connection face the engine access as directed by the Fire Department.

b) The FDC shall be located within 8 feet of fire apparatus access fronting property and/or building.

c) All roadways shall have an unobstructed width of no less than 20' easement with an all weather surface of 12" within said easement, capable of supporting fire department apparatus and 13' 6" in vertical clearance. CFC 503.2.1

6. **General requirements:**

a) Plans shall be submitted to Fire Department prior to installation. These plans shall include piping details (class & type), lengths, joint information, size and location of water supply, Type & location of valves, FDC locations & measurements. **All Water Tanks need to be on an approved foundation, a set of foundation plans need to be provided and approved by the building department.** NFPA 24-8.1 – 8.2.2

b) Piping bury depth shall be at least 3 feet (36 inches).

c) A reliable means of automatically maintaining the water level in the tank shall be provided. (This is normally by means of a float valve)

d) Refill piping shall not be less than 3/4" galvanized pipe from the top of the tank.

e) There shall be no shut-off valves between domestic and fire protection.

f) Weeds, grass and similar vegetation should be prevented throughout entire yard. Dead weeds to be removed after destruction.

g) There shall be a 24" x 24" inspection hatch on the top of the tank.

h) There shall be a ladder available for all inspections.

i) There shall be a vent equivalent to the outlet size located on the top of the tank. (This vent shall be protected from invasion from excessive dirt and/or living things.)

7. **Testing:**

a) Provide copy of **Contractor's Material & Test Certificate** furnished by the installing contractor.

b) Trench shall be backfilled between joints before testing to prevent movement of the pipe. All joints shall be visible during testing.

c) All new service mains shall be tested hydro statistically at not less than 200 psi for 2 hours, or at 50 psi in excess of the maximum static pressure.

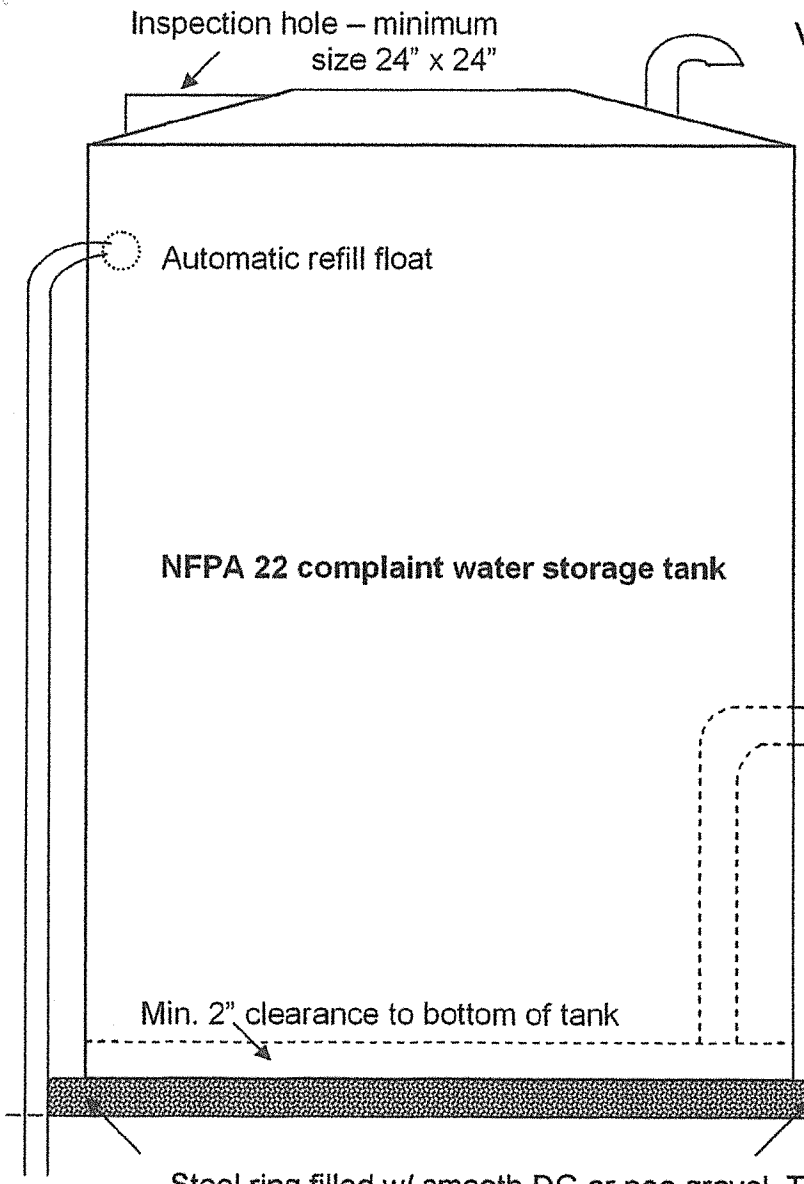
d) Testing shall be done in the presence of the Fire Department.

e) All control valves and FDC's shall be fully opened and closed under system pressure.

Contact the Fire Department at 747-8233 for the following:

1.	Preliminary inspection -	To approve the tank location. To discuss other fire safe requirements and answer questions.
2.	Second inspection -	To check clearances of connections Fire apparatus access and road conditions Pressure test of underground ***Need ladder and access to verify location of interior piping*** ***And float valve (NOTE: Tank is to be empty!)***
3.	Final inspection -	Flushing of line, checking the water refill capabilities, make sure tank Is full of water, inspect remaining hardware.

Rev. 06/09



Option 1 – connection at the tank

4" galvanized nipple
4" approved polyurethane or brass gate valve
4 ½" (I.D.) National Hose Thread (NHT) brass adapter
4 ½" (I.D.) cap – brass or plastic

Minimum 18", maximum 24" distance from finished grade to bottom of approved valve.

Steel ring filled w/ smooth DG or pea gravel. Tanks 5000 gallons or greater shall have an engineered cement slab.

From pump or water source: minimum ¾" residential / 2" commercial water supply line NFPA refill requirements shall be met

Provide proper support for Fire Department Connection (when required).

The Tulare County Fire Prevention Bureau shall pre-determine the location of the tank and inspect for access during the permit process.

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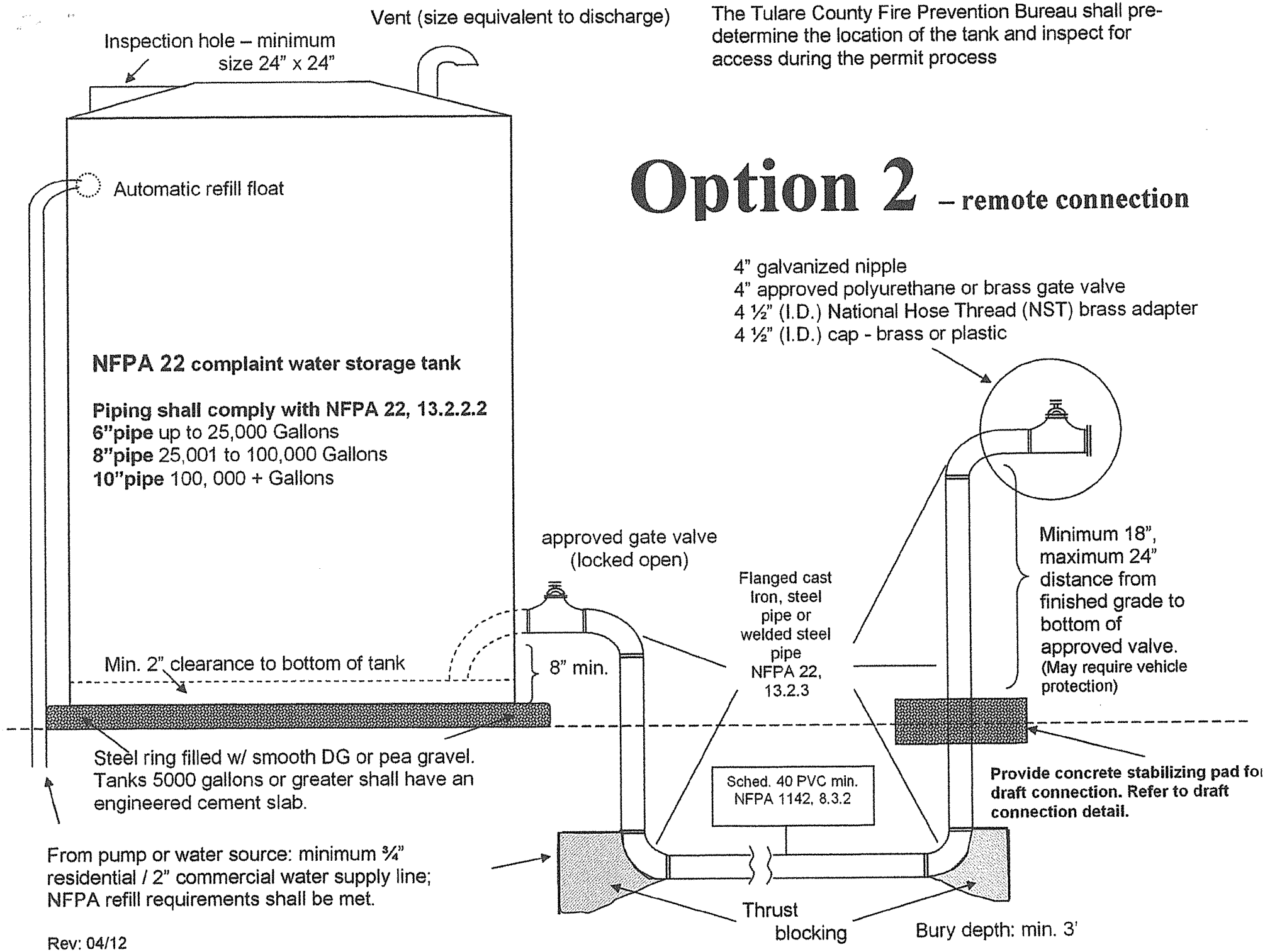
Option 2 – remote connection

The Tulare County Fire Prevention Bureau shall pre-determine the location of the tank and inspect for access during the permit process



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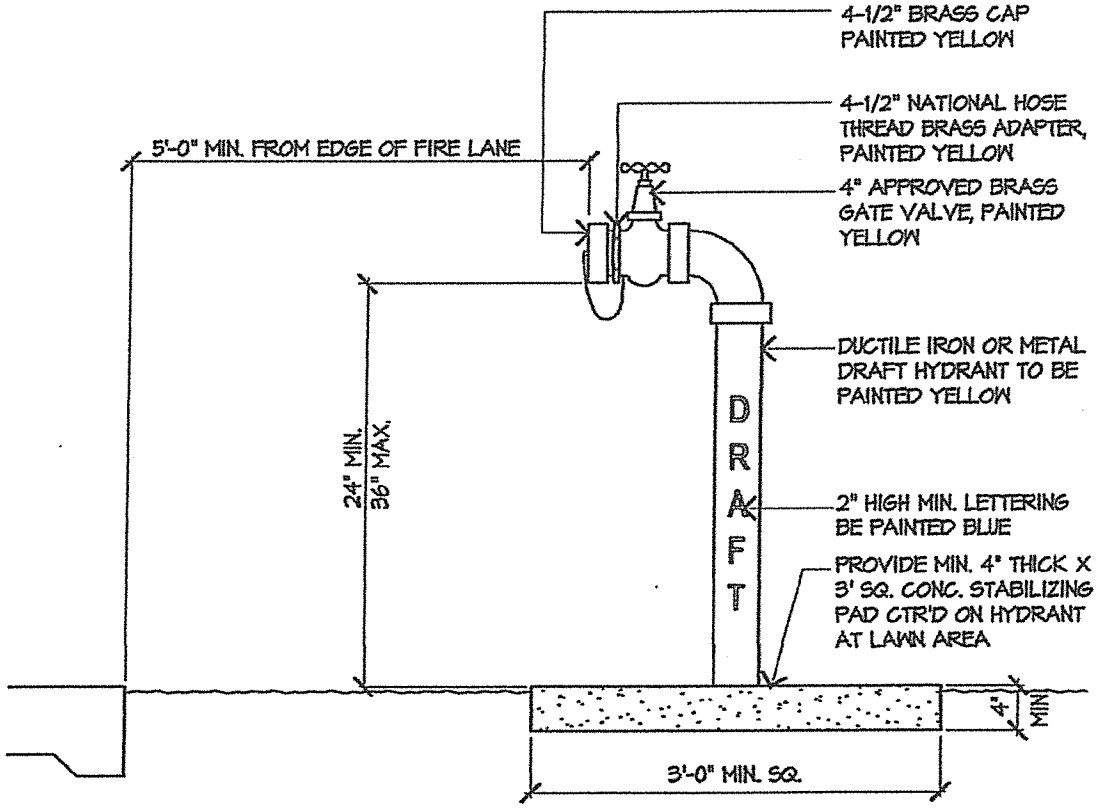
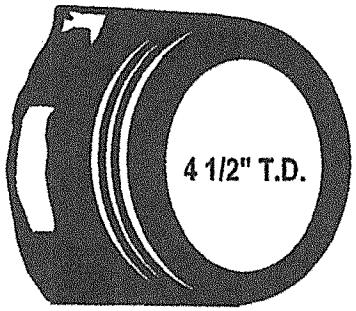
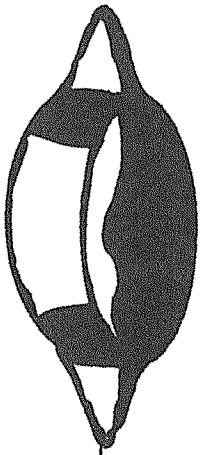


DRAFT CONNECTION DETAIL

SCALE: 3/4" = 1'-0"

National Hose Thread
4 1/2" Pumper Connection
Welded To Pipe





Irrigation Well Pumper Connection

4 1/2" Cap

Connection May Be Located At Any Point on Discharge Line

Butterfly Valve to Fit